UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/522,951
Filing Date: March 07, 2005
Appellant(s): MUHONEN, JANNE

Janne Muhonen
For Appellant

This is in response to the appeal brief filed May 1, 2008 appealing from the Office action

mailed March 30, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Hanson, (US 6023624)

Kallin, (US 6058308)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The same references, Hanson and Kallin have been used in the action below.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 29-67** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanson

(US 6023624) in view of Kallin (US 6058308).

Consider **Claim 29**, Hanson clearly teaches and discloses a method , comprising:

receiving a request for a current location of a mobile station **(Col. 1, lines 42-48)** in a mobile

communication system; determining a time at which a last known location of the mobile station

was determined **(Col. 1, line 64-67)**; comparing the time to a threshold time limit **(Col. 4, lines**

1-5), and, in response to the said step of comparing, finding, as the current location, the last

known location if the time is within the threshold time limit **(Col. 4, lines 7-12).**

Hansen teaches finding as a current location. However, Kallin teaches providing as a

current location **(Col. 2, lines 28-30).**

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Kallin into Hansen in order to indicate location **(Col. 2, line 28-30)**.

Consider **Claim 41**, Hanson clearly teaches and discloses a method, comprising: receiving at a network element a request from an application for a current location of a mobile station **(Col. 3, lines 63-64)** in a mobile communication system, determining, at the network element, a time at which a last known location of the mobile station was determined **(Col. 3, line 63-67 and Col. 4, line 1)**; comparing, at the network element, the time to a threshold time limit **(Col. 4, lines 1-5)**; and, in response to the comparing, finding for the application, as the current location, the last known location if the time is within the threshold time limit **(Col. 4, lines 7-12).**

Hansen teaches finding as a current location. However, Kallin teaches providing as a current location **(Col. 2, lines 28-30)**.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Kallin into Hansen in order to indicate location **(Col. 2, line 28-30)**.

Consider **Claim 42,** Hanson clearly teaches and discloses a network element comprising: means for receiving a request for a current location of a mobile station **(Col. 3, line 63-64)**, means for determining a time at which a last known location of the mobile station was determined **(Col. 4, lines 1-5)**; means for comparing the time to a threshold time limit **(Fig. 5, Blocks 531, 533, 535, and 505)**; and means for finding, as the current location, in response to the comparing, the last known location if the time is within the threshold time limit **(Fig. 5, Block 507)**.

Hansen teaches finding as a current location. However, Kallin teaches providing as a

current location **(Col. 2, lines 28-30)**.

Therefore, it would have been obvious to one skilled in the art at the time of the invention

to incorporate the teaching of Kallin into Hansen in order to indicate location **(Col. 2, line 28-**

30).

Consider **Claim 53**, Hanson clearly teaches and discloses a mobile communication

system comprising an application configured to provide location dependent services and to

generate a location request for a user equipment **(Figs. 1 and 3-5)**; a network element configured

to receive the request for a current location of a mobile station **(Col. 3, lines 63-64)**, a network

element configured to determine a time at which a last known location of the mobile station was

determined and to comparing the time to a threshold time limit **(Fig. 1, Data Table)**; and a

network element **(read as call processor)(Fig. 1, Block 30)** configured **to** find, as the current

location, in response to the comparing, the last known location if the time is within the threshold

time limit.

Hansen teaches finding as a current location. However, Kallin teaches providing as a

current location **(Col. 2, lines 28-30)**.

Therefore, it would have been obvious to one skilled in the art at the time of the invention

to incorporate the teaching of Kallin into Hansen in order to indicate location **(Col. 2, line 28-**

30).

Consider **Claim 57**, Hansen teaches a network element comprising:

a receiving unit configured to receive a request for a current location of a mobile station in a

mobile communication system **(Col. 2, lines 33-67, Col. 3, lines 1-67, Col. 4, lines 1-67, Col. 5,**

lines 1-23, and Fig. 5);

a determining unit configured to determine a time at which a last known location of the mobile

station was determined **(Col. 3, lines 7-67, Col. 4, lines 1-67, and Col. 5, lines 1-23)**;

a comparing unit configured to compare the time to a threshold time limit **(Col. 3, lines 7-21,**

and Fig. 5); and

a finding unit configured to find, as the current location, in response to the comparing, the last

known location if the time is within the threshold time **limit (Fig. 5, and Col. 3, lines 50-67,**

Col. 4, lines 1-67, and Col. 5, lines 1-23).

Hansen teaches finding as a current location. However, Kallin teaches providing as a

current location **(Col. 2, lines 28-30).**

Therefore, it would have been obvious to one skilled in the art at the time of the invention

to incorporate the teaching of Kallin into Hansen in order to indicate location **(Col. 2, line 28-**

30).

Consider **Claim 30** Hanson clearly teaches and discloses a method according to claim 29

further comprising: determining a current location of the mobile station if the time is not within

the threshold limit **(read as flood paging)(Col. 4, line 5 and Fig. 5, Block 521)**; and finding, as

the current location, the obtained current location **(Col. 2, lines 7-19)**.

Consider **Claim 31**, Hanson clearly teaches and discloses a method according to claim 29

wherein the comparing the time to the threshold time limit is dependent upon the status **(read as**

registered)(Col. 4, line 2) of the mobile station.

Consider **Claim 32**, Hanson clearly teaches and discloses a method according to claim 31

wherein if the mobile station is active the comparing is disabled **(read as initial restricted**

paging is enabled)(Col. 5, line 36) and a current location is determined for the mobile station

(read as 3 or even more most recent locations)(Col. 5, lines 34-35).

Consider **Claim 33**, Hansen teaches a method wherein the mobile has a status except

that it does not specifically teach wherein if the status of the mobile station is **idle**, the comparing

is enabled.

However, Kallin clearly teaches wherein if the status of the mobile station is idle **(Col. 2,**

lines 27-31) the comparing step is enabled.

Therefore it would have been obvious to one of ordinary skill in the art to incorporate the

teachings of Kallin into Hansen to provide the network with an indication of the position at

which the mobile is located.

Consider **Claim 34**, Hanson clearly teaches and discloses a method according to claim

30, wherein if a current location is not provided, the last known location is provided as the

current location **(read as last registration)(Col. 1, line 62).**

Consider **Claim 35**, Hanson clearly teaches and discloses a method according to claim 29

further comprising storing the last known location of a mobile station together with a time

associated with the last known location **(Fig. 1, Data Table).**

Consider **Claim 36**, Hanson clearly teaches and discloses a method according to claim 29

further comprising storing the threshold time limit **(read as elapsed time)(Col.1, line 65).**

Consider **Claim 37**, Hanson clearly teaches and discloses a method further comprising

dynamically adjusting the threshold time limit **(Fig. 5, Blocks 531, 533, 535, and 505, Col. 3,**

lines 50-67, and Col. 4, lines 1-44).

Consider **Claim 38**, Hanson clearly teaches and discloses a method according to claim 29 wherein the threshold time limit is set by a network operator **(Col. 5, lines 29-31).**

Consider **Claim 39**, Hanson clearly teaches and discloses a method according to claim 29 wherein the threshold limit is included in the request for the current location **(Col. 4, lines 1-12)**.

Consider **Claim 40**, Hanson clearly teaches and discloses a method according to claim 29 wherein the time is an elapsed time **(Col. 1, line 65).**

Consider **Claim 43**, Hanson clearly teaches and discloses a network element according to claim 42 further comprising means for determining a current location for the mobile station if the time is not within the threshold limit **(Fig. 5, Blocks 513, 517, and 521)**; wherein the means for finding is adapted to provide, as the current location, the obtained current location **(Fig. 5, Blocks 513, 517, and 521)**.

Consider **Claim 44**, Hanson clearly teaches and discloses a network element according to claim 42 wherein the means for comparing the time to the threshold time limit is responsive to a signal **(read as registration)(Col. 2, line 1)** indicating the status of the mobile station.

Consider **Claim 45**, Hanson clearly teaches and discloses a network element according to claim 44 responsive to said signal indicating that the mobile station is active the comparing means is disabled **(read as initial restricted paging)(Col. 5, line 36)** and a current location is determined for the mobile station **(read as three or more recent locations)(Col. 5, line 36).**

Consider Claim 46, Hansen teaches a network element wherein responsive to said signal except that it does not specifically teach a network element wherein responsive to said signal indicating that the mobile station is **idle**, the comparing means is enabled.

However, Kallin clearly teaches a network element wherein responsive to said signal indicating that the mobile station is **idle (Col. 2, lines 27-31)** the comparing step is enabled.

Therefore it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Kallin into Hansen to provide the network with an idle indication to allow registration of the mobile.

Consider **Claim 47**, Hanson clearly teaches and discloses a network element according to claim 43, wherein if a current location is not provided, the network element is adapted to provide the last known location is provided as the current location **(read as last registration or location)(Col. 1, line 62)**.

Consider **Claim 48**, Hanson clearly teaches and discloses a network element according to claim 42 further comprising means for storing the last known location of a mobile station together with a time associated with the last known location **(Fig. 1, Data Table)**.

Consider **Claim 49**, Hanson clearly teaches and discloses a network element according to claim 42 further comprising means for storing the threshold time limit **(Col. 3, lines 7-21)**.

Consider **Claim 50**, Hanson clearly teaches and discloses a network element according to claim 42 further comprising means for dynamically adjusting the threshold time limit **(Col. 5, lines 29-31).**

Consider **Claim 51**, Hanson clearly teaches and discloses a network element according to claim 42 wherein the threshold time limit is set by a network operator **(Col. 5, lines 29-31).**

Consider **Claim 52**, Hanson clearly teaches and discloses a network element according to claim 42 wherein the threshold time limit is included in the request for a current location **(Fig. 5, Blocks 531, 533, 535, and 505).**

Consider Claim 54, Hansen teaches a mobile communication system, wherein the

network element for determining the time at which the last known location was determined

except that it does not teach wherein the network element for determining the time at which the

last known location was determined includes a **visitor location register**.

However Kallin teaches a mobile communication system, wherein the network element

for determining the time at which the last known location was determined includes a **visitor**

location register Col.2, lines 60-63).

Therefore it would have been obvious to one of ordinary skill in the art to incorporate the

teachings of Kallin into Hansen to provide a network element to receive a registration report of

the mobile.

Consider **Claim 55**, Hanson clearly teaches and discloses a mobile communication

system according to claim 53 wherein the system implements a CAMEL framework **(Figs. 1 and**

3-5).

Consider **Claim 56**, Hanson clearly teaches and discloses a mobile communication

system according to claim 53 wherein the system implements location services **(Col. 1, lines 56-**

67 and Col. 2, lines 1-18).

Consider **Claim 58**, Hansen teaches a network element further comprising a determining

unit configured to determine a current location for the mobile station if the time is not within the

threshold limit **(Col. 3, lines 7-67, Col. 4, lines 1-67, and Col. 5, lines 1-23 and Fig. 5)**; wherein

the finding unit is configured to find, as the current location, the obtained current location **(Col.**

3, lines 7-67, Col. 4, lines 1-67, and Col. 5, lines 1-23 and Fig. 5).

Consider **Claim 59**, Hansen teaches a network element wherein the comparing unit is

responsive to a signal indicating the status of the mobile station **(Col. 2, lines 33-67, Col. 3, lines 1-67, Col. 4, lines 1-67, Col. 5, lines 1-23, and Fig. 5).**

Consider **Claim 60**, Hansen teaches a network element responsive to said signal indicating that the mobile station is active the comparing unit is disabled and a current location is determined for the mobile station **(read as set for restrictive paging of a recent location, Col. 5, lines 24-39)**.

Consider **Claim 61**, Hansen teaches a network element except that it does not specifically teach a network element wherein responsive to said signal indicating that the mobile station is idle, the comparing unit is enabled.

However, Kallin teaches a network element wherein responsive to said signal indicating that the mobile station is idle, the comparing unit is enabled **(Col. 2, lines 27-31)**.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Kallin into Hansen in order to provide an indication of the position of the mobile **(Col. 2, lines 27-31)**.

Consider **Claim 62**, Hansen teaches a network element, wherein, except that it does not specifically teach a network element wherein if a current location is not provided, the network element is configured to provide the last known location as the current location.

However, Kallin teaches a network element wherein if a current location is not provided, the network element is configured to provide the last known location as the current location **(Col. 15, lines 57-61).**

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Kallin into Hansen in order to handle a situation where there is no response to a page **(Col. 15, lines 57-61).**

Consider **Claim 63**, Hansen teaches a network element further comprising a storing unit configured to store the last known location of a mobile station together with a time associated with the last known location **(Fig. 1, Block 30, and Col. 1, lines 7-21)**.

Consider **Claim 64**, Hansen teaches a network element further comprising a storing unit configured to store the threshold time limit **(Fig. 1, Block 30, and Col. 1, lines 7-21)**.

Consider **Claim 65**, Hansen teaches a network element further comprising an adjusting unit configured to dynamically adjust the threshold time limit **(Col. 3, lines 7-67, Col. 4, lines 1-67, Col. 5, lines 1-23, and Fig. 5).**

Consider **Claim 66,** Hansen teaches a network element wherein the threshold time liroit is set by a network operator **(Col. 5, lines 24-39)**.

Consider **Claim 67**, Hansen teaches a network element wherein the threshold time li~it is included **(read as considered)** in the request for a current location **(Col. 3, lines 7-67, Col. 4, lines 1-67, Col. 5, lines 1-23, and Fig. 5)**.

(10) Response to Argument

Summary of Background Technology

In mobile cellular systems frequently situations arise where the system needs to provide service to the mobile phone based on it's location. Thus the mobile system main switching office will need to locate the mobile phone. The service situations where the system must locate the phone

are many but mainly include the following: Sending a ring signal to the phone for a phone call

(paging), 911 emergency calls, theft of the phone, and navigations services.   In all cases of

locating the phone the system first looks to a data base called the HLR find the mobile phones

last reported location. If the last reported location was recent then the system assumes that

location is up to date and uses that location for the mobile location.   However if that location is

not recent the system performs location update techniques to refresh the mobile location in the

data base.   The system then performs one of the above mentioned services using the mobiles

most recent location.   For example if a phone call comes in for a particular mobile phone the

system needs to know in what region (location area (LA)) to send out the ring signal (paging

signal) from particular radio towers in that location area.

Summary of Appellant's Argument and Examiner's Stance:

Applicant's main arguments are that the combination of Hanson and Kallin do not disclose a

method, system, or network element for comparing the time since the last page response to a

threshold time limit; and in response to the comparing, providing, as the current location, the last

known location if the time is within the threshold time limit.

The Examiner disagrees because

The primary reference, Hanson et. al discloses system for paging mobiles more

efficiently. Hanson discusses that when a phone call comes in for a mobile the system checks

the last know location and the report time for the location and checks a timer to see if the elapse

time since the location report is above a threshold. If the timer is not above a threshold the

system uses that location as the last location and paging the mobile in that location area. Those the examiner contends that Hanson does disclose the limitation of "if the timer is not above a threshold, reporting that location as the location". That is although all of the steps happen within the sytem there is one part of the system that reports the current location to another part of the system for paging.

Therefore, the Examiner contends that the main argument of the appellant has been taught.

Appellant's Argument, Page 6, Paragraphs 2-3:

The appellant argues that each of the claims 29-67 recite subject matter that is not taught or disclosed by the combination of Hanson and Kallin. However, the Examiner respectfully disagrees for reasons previously discussed above.

Further, Hanson clearly teaches a method for conserving paging resources in a cellular telephone system. Hanson teaches comparing the time of the last page response to a threshold time limit; and in response to the comparing, providing, as the current location, the last known location if the time is within the threshold time limit. The method of Hanson is essentially the same as that provided by the Appellant in that both Hanson and the Appellant seek to conserve paging resources by improving the efficiency of the paging process by using the elapsed time since the last paging location was stored as a threshold value. In both the method of Hanson and the Appellant, if the time is within threshold limits, then the location is considered the current location, and if the time exceeds the threshold limit, then more expansive paging techniques are employed. Hanson, alone, teaches comparing the time since the last page response to a threshold time limit (Fig. 1, Blocks 531, 533, 535, and 505) and determining is the current time minus the

most recent registration exceeds a threshold. Hanson alone teaches in response to the comparing,

providing, as the current location, the last known location if the time is within the threshold time

limit. Hanson clearly teaches that if the threshold is exceeded to use the more expansive paging

technique of flood paging all MSCs (Fig. 5, Block 521). Hanson also clearly and definitively

teaches that when the time threshold is not exceeded, that this is an indication that the mobile is

likely to be near its previous location (Col. 4, lines 40-45) and that therefore only the new

location (the most recent location, Col. 3, lines 14-21) is paged. Therefore, Hanson alone meets

the argued limitations of "comparing the time since the last page response to a threshold time

limit; and in response to the comparing, providing, as the current location, the last known

location if the time is within the threshold time limit." Additionally, Hanson in combination

with Kallin teaches "comparing the time since the last page response to a threshold time limit;

and in response to the comparing, providing, as the current location, the last known location if

the time is within the threshold time limit." The combination was provided to further point out

the technique of recording the location of last access by a mobile and then expanding the paging

area as required. Therefore, the combination of Hanson and Kallin reads on the argued

limitations as required.

Appellant's Argument, Page 6, Paragraphs 4-5:

The appellant argues that Hanson and Kallin do not meet the claim limitations of Claim 29 in

that "comparing the time since the last page response to a threshold time limit; and in response to

the comparing, providing, as the current location, the last known location if the time is within the

threshold time limit" is not taught. However, the Examiner respectfully disagrees for reasons

stated above.

Appellant's Arguments, Page 11, Paragraph 3 through Page 14, Paragraph 1

The Appellant argues that claims 30-40 are dependent on claim 29, include patentable

limitations, and therefore should be patentable for at least the reasons that claim 29 is patentable.

However, the Examiner respectfully disagrees for reasons previously discussed.

Appellant's Argument, Page 14, Paragraph 2:

The appellant argues that Hanson and Kallin do not meet the limitations of claim 41 in that

"comparing the time since the last page response to a threshold time limit; and in response to the

comparing, providing, as the current location, the last known location if the time is within the

threshold time limit" is not taught. However, the Examiner respectfully disagrees for reasons

stated above.

Appellant's Argument, Page 19, Paragraph 2 through 3:

The appellant argues that Hanson and Kallin do not meet the claim limitations of Claim 42 in

that "comparing the time since the last page response to a threshold time limit; and in response to

the comparing, providing, as the current location, the last known location if the time is within the

threshold time limit" is not taught. However, the Examiner respectfully disagrees for reasons stated above.

Appellant's Argument, Page 24, Paragrapg 3 through Page 26, Paragraph 4

The Appellant argues that claims 34-52 are dependent on claim 42, include patentable limitations, and therefore should be patentable for at least the reasons that claim 42 is patentable. However, the Examiner respectfully disagrees for reasons previously discussed.

Appellant's Argument, Page 26, Paragraph 4:

The Appellant argues that Hanson and Kallin do not meet the claim limitations of Claim 53, upon which claims 54-56 are dependent. The Appellant argues that a network element for "comparing the time since the last page response to a threshold time limit; and in response to the comparing, providing, as the current location, the last known location if the time is within the threshold time limit" is not taught. However, the Examiner respectfully disagrees for reasons previously discussed.

Appellant's Arguments, Page 32, Paragraph 2 through Paragraph 4:

The Appellant argues that claims 54-56 are dependent on claim 53, include patentable limitations, and therefore should be patentable for at least the reasons that claim 53 is patentable. However, the Examiner respectfully disagrees for reasons previously discussed.

Appellant's Arguments, Page 33, Paragraph 1:

The Appellant argues that claims 58-67 are dependent on claim 57, include patentable

limitations, and therefore should be patentable for at least the reasons that claim 57 is patentable.

However, the Examiner respectfully disagrees for reasons previously discussed.

Appellant's Arguments, Page 38, Paragraph 2 through Page 40, Paragraph 2:

The Appellant argues that claims 58-67 are dependent on claim 57, include patentable

limitations, and therefore should be patentable for at least the reasons that claim 57 is patentable.

However, the Examiner respectfully disagrees for reasons previously discussed.

Further, the Examiner disagrees with all of the Appellant's assertions that any rejection should

be reversed or claim allowed. Additionally, it should be noted that Hanson and Kallin are

exemplary references from relevant subclasses, that ,alone, or in combination read on the argued

limitations as set forth in the office action and the discussion above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the

Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be maintained.

Respectfully submitted,

/Shannon R. Brooks/

Examiner, Art Unit 2617

Conferees:

/NICK CORSARO/

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